

ABSTRACT:

The present invention pertains generally to the field of computer graphics user interfaces. More specifically, the present invention discloses a video image based tracking system that allows a computer to robustly locate and track an object in three dimensions within the viewing area of two or more cameras. The preferred embodiment of the disclosed invention tracks a person's appendages in 3D allowing touch free control of interactive devices but the method and apparatus can be used to perform a wide variety of video tracking tasks. The method uses at least two cameras that view the volume of space within which the object is being located and tracked. It operates by maintaining a large number of hypotheses about the actual 3D object location.